

## TITLE OF THE ABSTRACT

Lactate clearance as a predictor of mortality among children admitted to Pediatric Intensive Care  
Unit with shock

Key words: Lactate, lactate clearance, shock, children, mortality

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### OBJECTIVES:

To determine the association of admission lactate with mortality, if lactate clearance is superior to admission lactate in mortality prediction and to determine an optimal cut off for lactate clearance among children with shock.

### METHODS:

86 children (Mean age 4.7 years, 62% males) presenting with shock were enrolled from September 2015 – July 2016. Admission blood lactate and PIM-II score was obtained. PIM-II score was used to assess the illness severity on admission. Lactate clearance (Admission lactate – subsequent lactate/ admission lactate x 100%) in the first 24 hours of resuscitation was calculated. Admission lactate and lactate clearance at 6, 12 and 24 hours was correlated with mortality using Receiver operator characteristics curve (ROC) and a best cut off of lactate clearance at 24 hours was obtained to predict mortality. Risk factor analysis was done using Binary Logistic regression with step wise method in predicting the risk factors for mortality.

### RESULTS:

41 out of 86 patients died, 52% patients admitted with shock had septic shock, mean admission lactate in the overall population was  $5.4 \pm 4.1$  mmol/l. Admission lactate was not predictive of mortality in our study, however lactate at 12 and 24 hours were good predictors of outcome (AUC: 0.710 & 0.781). Mean lactate clearance at 12 and 24 hours were significantly higher among the survivors than non-survivors and were good predictors of mortality. We established a cut off of 30% for lactate clearance at 24 hours. This cut-off revealed a significant difference in the median survival duration of hospital stay using Kaplan Meier curves.

